

REMARKS

Claims 1-17 are currently pending, wherein claims 5, 7, 8, 11-13, and 17 have been canceled and claims 1-4, 6, 9, 14, and 15 have been amended to correct typographical and/or translation errors.

In paragraph 4 of the Office Action ("Action"), the Examiner objects to the disclosure for containing reference to the specific claims by number. The specification has been amended to remove any reference to specific claim numbers, thereby addressing the Examiner's concerns.

In paragraph 6 of the Action, the Examiner rejects claims 1-6 and 9-17 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. More specifically, the Examiner asserts that the phrase "consists of a nickel-free or low-nickel steel" in claim 1 makes the scope of the claims vague because it is unclear whether the wire sections are made "only" of the nickel-free steel, excluding any other elements, or are made up of nickel-free steel plus other elements.

Claim 1 has been amended to include the subject matter of canceled claim 5 and to more closely conform to U.S. practice. More specifically, claim 1 has been amended to recite that two wired sections are formed of austenitic steel including less than 0.05% nickel by weight. Accordingly, although the austenitic steel may consist of other elements/compounds, the percentage by weight of nickel must be less than 0.05%.

In paragraph 8 of the Action, the Examiner rejects claims 1-6 and 9-17 under 35 U.S.C. § 103(a) as allegedly being unpatentable over European Patent Application Publication No. EP 0 800 781 to Sunstar Inc. ("Sunstar"). Applicant respectfully traverses this rejection.

In order to support a rejection under 35 U.S.C. § 103, the Examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some motivation to modify the cited references. Second, there must be a reasonable expectation of success. Finally, the modification must teach each and every claimed element. In the present case, claims 1-6 and 9-17 are not rendered unpatentable over Sunstar for at least the reason that Sunstar fails to disclose each and every claimed element, as discussed below.

Independent claim 1, as amended, defines an interdental brush. The brush includes, *inter alia*, two wire sections formed of austenitic steel and having a diameter of 0.3 mm or less; and filaments retained between the two wire sections which are twisted with one another, wherein the austenitic steel includes less than 0.05% nickel by weight.

Sunstar discloses an interdental brush that includes, according to various embodiments, a steel wire having a diameter of 0.15 to 0.35 mm and containing nitrogen and a controlled amount of manganese. The alloys disclosed in Sunstar are broadly divided into two defined groups according to their content of manganese: a first group with a manganese content of > 2.5% by weight (embodiments 1-7); and a second group with a manganese content of < 2.5% by weight. Furthermore, Sunstar explicitly discloses that various embodiments contain a specified amount of nickel ranging from 1% to greater than 10% by weight. However, nowhere in Sunstar is there any disclosure or suggestion of limiting the percentage by weight of nickel to produce a “nickel-free” steel. In other words, nowhere in Sunstar is there any disclosure or suggestion of limiting the amount of nickel to less than 0.05% by weight.

In rejecting claim 1, the Examiner appears to assert that even if Sunstar does not explicitly disclose nickel-free steel (i.e., steel comprising less than 0.05% by weight nickel), it would have been obvious to one skilled in the art to use a steel comprising less than 0.05% by weight nickel in view of the fact that steel comprising not more than 1.0% by weight is known. This assertion is unfounded for the following reasons.

First, the mere fact the use of nickel in twisted wires is widely known is not sufficient to establish the obviousness of using twisted wires which are essentially nickel free (i.e., include less than 0.05% nickel). In fact, it suggests the exact opposite.

Second, although Sunstar discloses controlling the content of manganese in the steel to achieve improved results, nowhere in Sunstar is there any suggestion of trying to eliminate nickel in order to achieve improved results. Accordingly, altering the amount of nickel would not have been optimizing effort in view of Sunstar. To the contrary, one skilled in the art would merely have been motivated to control the amount of manganese.


Accordingly, independent claim 1 is patentable over Sunstar for at least the reason that Sunstar fails to disclose or suggest an interdental brush comprising two wire sections formed of austenitic steel and having a diameter of 0.3 mm or less; and wherein the austenitic steel includes less than 0.05% nickel by weight. Claims 2-4, 6, 9, 14, 15, and 16 variously depend from independent claim 1. Therefore, claims 2-4, 6, 9, 14, 15, and 16 are patentable over Sunstar for at least those reasons presented above with respect to claim 1. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-4, 6, 7, 14, 15, and 16.

The application is in condition for allowance. Notice of same is earnestly solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Penny Caudle (Reg. No. 46,607) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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